

HOW TO DEVELOP THE INCLUSIVE CITY IN A POST- INDUSTRIAL ERA?

Heuristics on decision making: The wicked problems of inclusivity
and how to approach them

Student

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Cross Domain City of the Future

The inclusive city

I POSITIVE AND NEGATIVE HEURISTICS OF INCLUSIVITY

Architecture has evolved in recent years to adopt a new set of methodological awareness especially regarding multi-disciplinary practices. "The problems addressed by designers seldom fall solely within the boundaries of any one of these subject matters."¹ By understanding that research methods need to be inter-disciplinary, architecture knowledge can explore other domains that were previously discussed as non-relevant for the profession to be 'deconstructed' or "reconstructed."² Architects have come to borrow external literature to be able to define complex and wicked problems.³ Buchanan in; *Wicked problems in design theory*⁴, talks about the problems created by having an "empirical placement"⁵ which consequentially makes one use a similar solution to a new problem, hence limiting the possibilities for innovation. He, therefore, talks about problems being situational. In my case I am facing one such problem.

My question was identified using theory-led research by introducing several concepts about inclusivity. These include literature from sociologists like Henri Lefebvre's "writings on cities"⁶, which contains "the right to the city" examining ideas of ethics and also literature on economics that has to do with gentrification, from how it affects the lives of people on themes like displacement and replacement as much as affordability of the post- gentrified areas in the South of Rotterdam and specifically in the areas affected by the Rotterdam Law⁷ which also borrows literature from politics. These topics introduce wicked and ethical problems. If one decides to side with gentrification then one has to be responsible for his/her actions⁸ as low-income people will have to be displaced. If on the other hand, one decides to be a philanthropist and be positioned as a social scientist then one closes off the doors for potential new influx of middle and high-income people in the South of Rotterdam keeping the neighbourhoods local without solving any of the current problems of the areas. Hence a back and forth approach or falsification⁹ (mentioned by Lakatos' teacher, Karl Popper is required to attempt to solve wicked problems in my chosen area of investigation. In this case it is done through a historical method by looking at how existing models of social cohesion as types of buildings have been attempted in the past.

To define my research question, I have demarcated positive and negative heuristics.¹⁰ In the centre is inclusivity which is clearly identified using 'the right to the city' and the biopolitics of the new post-industrial era. The first one aims to look at how everyone should have the same rights in a city, in both an urban and a sub-urban situation in terms of connectivity to amenities(which introduces research by cartography and networking). This means that I am not siding with low-income people and it also means that gentrification should happen to allow middle and high-income people to move into these areas. The latter is about post-industrialism, meaning that even low-income people need to adapt to the new economy. As automation has taken over the manual labour of the working class that existed during the industrial era, they now have to adapt to become service providers, even at a low-education professional level e.g. cleaners, cashiers etc. My negative heuristics are that even though low-income people need to catch up with the ever-evolving political and economic situation, I would like to densify these areas to avoid displacement, hence creating symbiosis (social cohesion) in the new city of the future.

¹ Buchanan, Richard. 1992. "Wicked Problems In Design Thinking". *Design Issues* 8 (2): 14. doi:10.2307/1511637.

² Anderson, Stanford. 2009. "Rational Reconstructions And Architectural Knowledge". *Architecture In The Age Of Empire* 11.

³ Ibid

⁴ Buchanan, Richard. 1992. "Wicked Problems In Design Thinking". *Design Issues* 8 (2): 14. doi:10.2307/1511637.

⁵ Ibid

⁶ Lefebvre, H., Kofman, E. and Lebas, E. (1996). *Writings on cities*. 1st ed. Oxford, UK: Blackwell Publishers.

⁷ It is a Law which states that if someone did not live in the Rotterdam Metropolitan area for the last six years, and earns less than a specific amount of money, can't live in 5 selected neighborhoods in the South of Rotterdam, hence creating favoritism of the upper economic classes to live there.

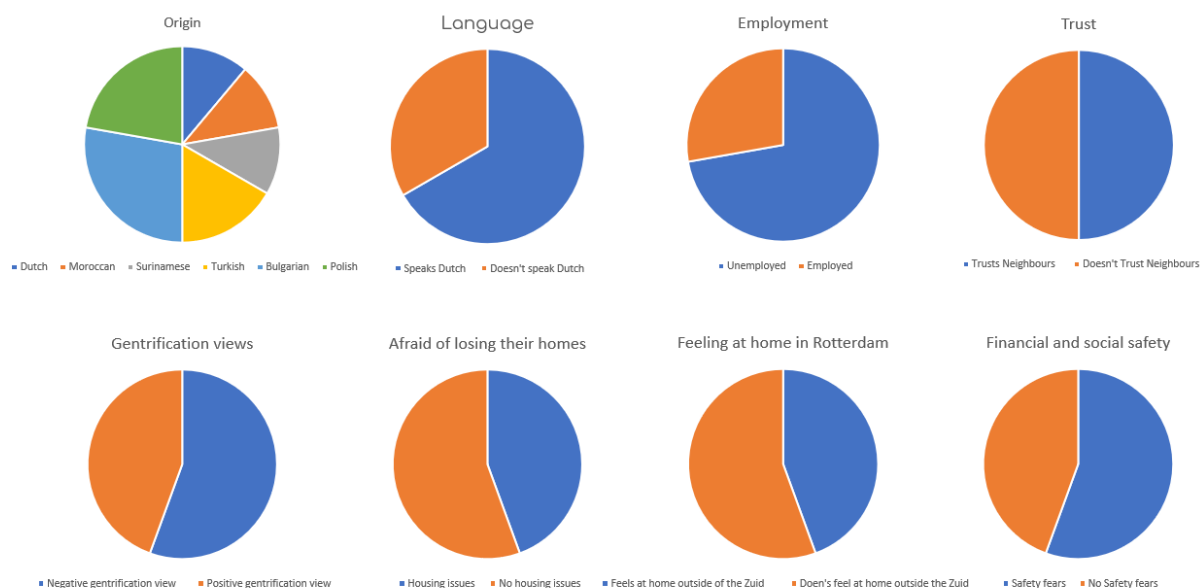
⁸ Buchanan, Richard. 1992. "Wicked Problems In Design Thinking". *Design Issues* 8 (2): 14. doi:10.2307/1511637.

⁹ Anderson, Stanford. 2009. "Rational Reconstructions And Architectural Knowledge". *Architecture In The Age Of Empire* 11.

¹⁰ Landau, Royston. 1981. "Notes On The Concept Of An Architectural Position". *JSTOR* 1.

II COMBINATORY AND THEREFORE INTER-DISCIPLINARY AND INDETERMINATE

My initial approach was to become a sociologist and investigate what kinds of problems people in deprived areas face. As our studio had already given to us a site of investigation to begin with which was Rotterdam, I decided to start my frame of research by going to the South of Rotterdam to conduct qualitative research.¹¹ As mentioned previously, my research is theory-led and based on heuristics, hence an observation of the people in the South to understand how they use the space, along with interviewing a total of 19 people (18 residents in 3 of the neighborhoods addressed, Carnisse, Bloemhof and Tarwewijk, and one with a social worker of DOCK Charlois). My findings are attached below:



After my findings, my research became demographical¹². What was important for me was to understand how many people live in Rotterdam, and compare that number with how many of them are National Dutch, of a Western Culture or a non-western one to overlay these numbers with how many of these people are of a low-income background or a high-income background¹³, which resulted in showing the relevance of Non-western migrants being mainly, low-income people. The same research was then overlayed with a paper on the Dutch-Housing code¹⁴ published by TU Delft which provided me with more numbers on how many of the houses in Rotterdam are rented-housing and information on the housing associations that are related with those numbers.

After gaining an understanding of these numbers and the problems that people in deprived areas face, my research adopted its theoretical framework using the interpretation of the inclusive city. Starting from the work of Henri Lefebvre, 'Writings on cities'¹⁵, also mentioned in 'Research Methods for Architecture'¹⁶, I had decided to be ethical on my approach. Later, I came across an article by Raphaël Besson, 'Productive cities(...)'¹⁷ which presented a city where new biopolitics apply and where gentrification becomes an issue of replacement and not displacement as the biopolitics of the post-industrial era replaces the working class with machines and therefore the adaption of the now called

¹¹ Lucas, Ray. 2016. *Research Methods For Architecture*. London: Laurence King Publishing Ltd.

¹² "CBS". 2019. Centraal Bureau Voor De Statistiek. Accessed December 11. <https://www.cbs.nl/>.

¹³ Ibid

¹⁴ Ouwehand, André, and Gelske van Daalen. 2002. "Dutch Housing Associations: A Model For Social Housing". DUP Satellite, TU Delft.

¹⁵ Lefebvre, H., Kofman, E. and Lebas, E. (1996). *Writings on cities*. 1st ed. Oxford, UK: Blackwell Publishers.

¹⁶ Lucas, Ray. 2016. *Research Methods For Architecture*. London: Laurence King Publishing Ltd.

¹⁷ Besson, R. (2017). Productive cities: toward a new biopolitics of cities. [online] *The Conversation*. Available at: <http://theconversation.com/productive-cities-toward-a-new-biopolitics-of-cities-86792> [Accessed 28 Nov. 2019].

low-income class develops into a wicked problem as they have to adapt to new types of employment. This article found its credibility in "The struggle to belong(...)"¹⁸ which presents this case but using as a case study 3 newly gentrified areas in the South of Rotterdam. The wickedness derives from the automation as it deploys convenience but has now left a lot of people without employment.

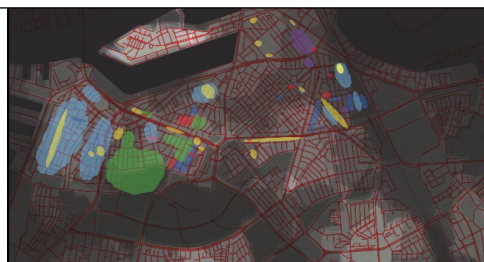
Similarly, my process continues with cartography, and network finding to address connectivity to amenities. By using the technology of Geographical Information Systems(GIS) I could now create nodes of specific amenities on maps that would create a network around my area of analysis. Once again, according to Popper, falsification¹⁹ appears defined by what amenities are more suitable to choose(even though it is considered pseudoscience it is sometimes appropriate to attempt it to provide yourself with different types of potential solutions). There are local ones to choose from and also amenities that are to be needed by the new flows of people that that would inhabit the area post-gentrification. This becomes the indeterminate process that Buchanan refers to in 'Wicked Problems'²⁰ for a deprived area. Having amenities like cafes or restaurants I refer to amenities that are needed for people with a busy lifestyle mainly of middle to high-income. Local amenities like community centres or parks, refer to locals of an area and could potentially solve social problems. To define this it is important to understand the heuristic process of defining amenity-choosing. Technology, as defined by Dewey,²¹ is experimental thinking, therefore overlaying several amenities to find patterns in GIS, makes it possible to identify weaknesses of these areas, both to a local and national level, but the provision of these amenities affects the result of the influx of people greatly. As there are no current models for creating social cohesion, or inclusivity according to my theoretical framework, the results can never be known. "Solving a wicked problem is a one-shot operation with no room for trial and error", Buchanan says, but he also says that "For every wicked problem there is always more than one possible explanation, with explanations depending on the Weltanschauung of the designer."²²and therefore, it falls up to me to take responsibility using my findings to find a solution, mainly through trial and error.



Map indicating connectivity to amenities weaknesses (darker areas as weaker)



Identified weak areas



Identified areas concerned with gentrification according to Gemeente Rotterdam



Identified areas overlaid with the liveability index from leefbaarometer.nl

¹⁸ Snel, E., Aussen, S., Berkhof, F. and Renlo, Q. (2011). The struggle to belong: Dealing with diversity in 21st century urban settings: Views of gentrification from below: how Rotterdam local residents experience gentrification?. *Erasmus University Rotterdam*, RC21 conference 2011 Session 2 "Social Consequences of Gentrification.."

¹⁹ Anderson, Stanford. 2009. "Rational Reconstructions And Architectural Knowledge". *Architecture In The Age Of Empire* 11.

²⁰ Buchanan, Richard. 1992. "Wicked Problems In Design Thinking". *Design Issues* 8 (2): 14. doi:10.2307/1511637.

²¹ Ibid

²² Ibid

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My bibliography on wicked problems can be divided into two categories: 'The explainers' and 'the solvers'. The 'explainers' use an epistemic framework to describe these wicked problems while the solvers attempt to define a solution to the wicked problems, even though all authors agree that wicked problems can not have only one optimal solution and many of them define multiple solutions usually on one's world view.²³

"There is nothing like the undisputable public good; there is no objective definition of equity; policies that respond to social problems cannot be meaningfully correct or false, and it makes no sense to talk about "optimal solutions"²⁴

Rittel and Webber describe the opposite term as 'tame problems'²⁵ which are problems that are usually solved by scientists and eventually have one solution. Wicked problems, on the other hand, are called by many names, indeterminate²⁶ by Buchanan, Rittel and Webber, open-ended²⁷ by Jacobsen et al and fluid and highly ambiguous²⁸ by Raisbeck. These sources are defined as explainers, as they are convinced that wicked problems can't be right or wrong²⁹, according to Rittel and Webber, mainly because equity can't be measured and that these sources (apart from Raisbeck) are from the 20th Century, describing the attitude towards these problems in the past. All the above sources also tend to blame the people for being used to the simplistic terms of problem definition and problem solution.³⁰ I use the term blame because professionals sometimes only understand their own position mainly because they locate themselves in their own domains (etic approach).

Similarly, people can not understand the problems faced by our profession and blame us back as they don't understand the complexity of wickedness:

"Their representatives refuse to believe that planning for betterment is impossible"³¹, a strong statement by Rittel and Webber. Raisbeck asks a similar question into the matter: "The rest of the world wants answers and why not?"³² Even though Raisbeck, agrees with Rittel and Webber, he also acknowledges the fact that people may not understand the way architects and planners formulate problems, he also understands the perspective of the people. "And why not" refers to the idea of wicked problems being at least questionable in terms of endeavouring to be improved or finding new ways to be addressed. He calls the way architects and in general professionals think, elitist³³. This might be an exaggeration, but its value is found in the fact that wicked problems sometimes are political or sociological and not solely architectural.

All the sources attempting to find a solution (the solvers) to wicked problems are characterized by an emic approach hence switching from being observers to being more engaged with the clients themselves. An evolved stage of (re)constructing and dealing with wicked problems tends to come forth using cooperation or 'dialogue'³⁴, as mentioned in "Re-constructing the wicked problem through the visual and the verbal(...)"³⁵ The authors compare wicked problems to the fight of Heracles with the

²³ Holm Jacobsen, Peter, Chris Harty, and Kjell Tryggestad. 2016. "(Re)Constructing The Wicked Problem Through The Visual And The Verbal: The Case Of A Dialogue Based Architectural Competition". *Association Of Researchers In Construction Management*.

²⁴ Rittel, Horst W.J, and Melvin M. Webber. 1973. "Dilemmas In A General Theory Of Planning". *Elsevier Scientific Publishing Company*.

²⁵ Ibid

²⁶ Buchanan, Richard. 1992. "Wicked Problems In Design Thinking". *Design Issues* 8 (2): 14. doi:10.2307/1511637.

²⁷ Holm Jacobsen, Peter, Chris Harty, and Kjell Tryggestad. 2016. "(Re)Constructing The Wicked Problem Through The Visual And The Verbal: The Case Of A Dialogue Based Architectural Competition". *Association Of Researchers In Construction Management*.

²⁸ Raisbeck, Peter. 2016. "Waiting For The Barbarians: For Architects There Are No Right Answers Only Wicked Problems.". *Peter Raisbeck: Surviving The Design Studio*. <https://peterraisbeck.com/2016/10/12/waiting-for-the-barbarians-for-architects-there-are-no-right-answers-only-wicked-problems/>.

²⁹ Rittel, Horst W.J, and Melvin M. Webber. 1973. "Dilemmas In A General Theory Of Planning". *Elsevier Scientific Publishing Company*.

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³¹ Ibid

³² Raisbeck, Peter. 2016. "Waiting For The Barbarians: For Architects There Are No Right Answers Only Wicked Problems.". *Peter Raisbeck: Surviving The Design Studio*. <https://peterraisbeck.com/2016/10/12/waiting-for-the-barbarians-for-architects-there-are-no-right-answers-only-wicked-problems/>.

³³ Ibid

³⁴ Holm Jacobsen, Peter, Chris Harty, and Kjell Tryggestad. 2016. "(Re)Constructing The Wicked Problem Through The Visual And The Verbal: The Case Of A Dialogue Based Architectural Competition". *Association Of Researchers In Construction Management*.

³⁵ Ibid

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Hydra. "Every time Heracles cut a head, two new heads grow back"³⁶ Through continuous dialogue with the clients for turning an old brewery in Copenhagen into a hybrid building the solution of wicked problems was attempted to be found. This was done using a new concept on architectural competitions where several practices taking part had several workshops thrown using visual language to communicate their ideas with both the jury and the clients in a dynamic environment.

Young³⁷ argues that several details of the user experience(affordance) are relatively lost as architects are "arguably less successful with the sharp definition of intended functions, presumably because of the complexity of human activities in the built environment"³⁸ She also argues that creating a common language in architecture(and potentially together with other disciplines) can be a good solution to design for human experience. In "the reflective practitioner"³⁹, we get to observe part of this architectural language in the form of a casual tutorial between a student and a teacher. "Quist draws the extension of the gallery as he voices its possibility, imagining the experience of a person who would be following such a path"⁴⁰ This is extremely relevant as both Young and Schön describe a setting of education and at the same time a setting of human experience attempting to solve a wicked problem of design through the visual and the verbal. Raisbeck adds to this argument by mentioning that: Architectural academics and indeed architects need to counter this by communicating what we are doing more effectively to the public."⁴¹ Hence it is worth noting that wicked problems even as they are, can be at least attempted to be solved by educating students accordingly to be able to communicate ideas for formulating solutions but also to allow them to be flexible. Flexibility in a design team allows for the re(construction) of wicked problems as mentioned by Jacobsen et al to allow for the changing problems to be considered even as they appear as wicked.

IV FROMM ETIC TO EMIC THROUGH WICKEDNESS

While conducting my research on the areas of the South of Rotterdam, even though I have included interviews and observed people using the space, I have never considered turning to an emic approach. Even while being on-site, I was still only a mere observer. I believe that the explainers mentioned in the previous part have a right to question the impossibility of finding an optimal solution to wicked problems but seeing as to how many slightly different approaches to them have been developed to be more productive than simply questioning what wicked problems are. The presentation of the case studies presented by Jabcobsen et al and Donald Schön mean to present the common architectural language, mainly proposed by Young. I believe that this way, clients themselves will begin to understand the language and also the importance of design⁴² and hence a better future for both designers and clients can be achieved instead of pitting one against the other.

Since my research has a lot to do with societal issues and possibly changing the lives of people for better or worse depending on different income groups, maybe instead of asking myself, which people are more connected to amenities or asking them what kind of problems do they face from a sociological perspective, I could have asked them, what do you want to see change in your built environment according to your needs(affordances)? That means adopting a completely different method of qualitative research which can involve both the low-income people currently living in the area and people of other income status' that are looking to live in these areas in the South of Rotterdam as this is what an inclusive in a city, is all about. There is a concept that has started in

³⁶ Ibid

³⁷ Young, Fiona. 2018. "Addressing Architecture's Wicked Problems Through Affordances". *ACA - Association Of Consulting Architects Australia*. <https://aca.org.au/article/addressing-architectures-wicked-problems-through-affordances->

³⁸ Ibid

³⁹ Schön, Donald A. 1983. *The Reflective Practitioner: How Professionals Think In Action*. Abingdon: Routledge.

⁴⁰ Ibid

⁴¹ Raisbeck, Peter. 2016. "Waiting For The Barbarians: For Architects There Are No Right Answers Only Wicked Problems.". *Peter Raisbeck: Surviving The Design Studio*. <https://peterraisbeck.com/2016/10/12/waiting-for-the-barbarians-for-architects-there-are-no-right-answers-only-wicked-problems/>.

⁴² Young, Fiona. 2018. "Addressing Architecture's Wicked Problems Through Affordances". *ACA - Association Of Consulting Architects Australia*. <https://aca.org.au/article/addressing-architectures-wicked-problems-through-affordances->

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Chicago but has now started having an international recognition that is referred to as Placemaking⁴³, more recently named 'Project public space'. This concept is directly related to changing the living environment of neighbourhoods by applying certain rules like Triangulation⁴⁴ or as I call it 'event making', by allowing these people to be more social with the people around them. Triangulation is created when people in a public place have a common point of discussion, like a statue, or a street musician where they begin to talk about it with strangers by initiating conversation; "I like this musician!" or "I think this statue is ugly". However, the best thing about placemaking is that the architect has to be in constant contact with the inhabitants of the regarded area.

"PPS decided to develop a different process – one that is bottom-up versus top-down – which we call Placemaking. We have since found a Placemaking process is more economical, more efficient, and more fun for both people in communities and local officials. It also results in visible changes and has a far greater impact on the community."⁴⁵

It is worth noting that in this case, the architect now cooperates with the public itself. It is not necessarily about architecture per se, as the locals become the designers of their own spaces. With a placemaking perspective the arguments between the architects and the clients that both blame each other can be breached. Wicked problems can be discussed at an equal ground. And this ground can be as detailed and flexible as the client because the client is also the end-user making it an equitable approach, where the case is not always the architect against the client but also the client against the end-user (ironically creating a wicked problem within the hierarchy of the people in the built environment as satisfying one side usually creates problems in another). Nevertheless, This creates a new methodological approach towards wicked problems that are created specifically for dealing with deprived neighbourhoods in terms of gentrification.

In an ideal world, many of these problems would have enjoyable approaches and positions towards architecture but I believe that wicked problem solving has come a long way. I can also observe though that even the best thought-out solutions, like Placemaking which is as flexible as can be because the changes that happen are continuous⁴⁶, can always fail. I can imagine that even if we are talking about allowing the people to be involved in the decision making of their own built environment, this can lead to disagreements between inhabitants, or even going back to the wickedness, by solving one problem for one resident and hence creating another one for another resident or even for the same one. Wicked problems will always exist in the field of architecture and design but one can respect the ideas presented to attempt to solve them. Hence an emic or bottom-up position is better than an etic approach to really understand the people that architects design for.

⁴³ Project for Public Spaces and Metropolitan Planning Council. 2008. "A Guide To Placemaking In Chicago". New York.

⁴⁴ Ibid

⁴⁵ Ibid

⁴⁶ Ibid

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